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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,194

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Matthew Glenn Waight

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03/31/2006

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

VO, NGUYEN THANH

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,194

Applicant(s)

WRIGHT ET AL.

Examiner

Nguyen T. Vo

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 25-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 36-43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-24 and 36-43 in the reply filed on 3/21/2006 is acknowledged.

Claim Objections

2. Claim 38 is objected to because of the following informalities: the recitation "the control" at line 1 should be changed to --the control circuit--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 17, the recitation "the predetermined type" at line 13 lacks clear antecedent basis.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5, 7-11, 14, 17-20, 36, 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosen (6,535,722, cited by examiner).

As to claims 1, 17, Rosen discloses in a tunable receiver (see the tunable receiver in figure 2), the improvement comprising a filter circuit 20, 24 (see column 3 lines 40-51) having a frequency response determined by a value of at least one passive circuit element of a predetermined type (see the capacitors C1-Cn in figure 3) in the filter circuit; a plurality of circuit elements of the predetermined type (see the plurality of capacitors C1-Cn); a plurality switches (see a plurality of switches SW0-SW2 and S1-S2 in figure 3), each associated with a respective circuit element for switching the respective circuit element into the filter circuit to vary the frequency response of the filter circuit (see column 4 lines 1-53); a digital interface (see figure 3 which shows input terminals for receiving digital input signals VC1-VCn, VD1, VL1 and VL2; see also figure 5 which shows control line 171 and its end 228 coupled to the tunable filter) responsive to digital input signals (VC1-VCn, VD1, VL1 and VL2 in figure 3) to control the plurality of switches; the plurality of circuit elements of the predetermined type, the plurality of switches and the digital interface being incorporated in a single integrated circuit (see a single integrated circuit in figures 4-6; see also column 5 line 9 to column 8 line 34; column 11 line 49). Rosent thus discloses all the claimed limitations.

As to claims 2, 18, see Rosent, column 7 line 57 to column 8 line 3; see also figure 3 which shows the digital input signals coupled to each circuit elements C and L.

As to claims 3, 10, 19, see Rosent, column 7 lines 19-39.

As to claims 4, 9, Rosent discloses capacitances C1-Cn in figure 3.

As to claims 5, 20, see Rosent, column 7 line 57 to column 8 line 3.

As to claim 7, see Rosent, abstract lines 10-14; column 1 lines 36-39.

As to claim 8, see the LC network in figure 3 of Rosent.

As to claim 11, see Rosent, column 6 lines 7-11; column 11 lines 21-25.

As to claim 14, see Rosent, column 6 lines 7-11.

As to claim 36, first of all the rejection to claims 1 and 3 as set forth above is herein incorporated. In addition, Rosent does further disclose that the capacitor bank is in parallel with another circuit (see figure 3).

As to claim 39, Rosent discloses a controller 42 and a memory (inherently included in order to store the table 1 at column 5).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 6, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosent in view of Christensen (6,778,023, cited by examiner).

As to claims 6, 21, Rosent fails to disclose calibrating the tunable filter as claimed. Christensen discloses calibrating a tunable filter (see column 5 lines 6-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Christensen to Rosent, in order to provide a fast programmable filter (as suggested by Christensen at column 5 lines 9-16).

10. Claims 12-13, 15-16, 22-24, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosent.

As to claims 12, 15, 22-23, Rosent fails to disclose printing the inductors L in figure 3 on a printed circuit board. The examiner, however, takes Official Notice that printing inductors in a printed circuit board is known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Rosent such that one of more inductors are printed on a printed circuit board, in order to reduce the size and weight of the receiver.

As to claims 13, 16, 24, Rosent fails to disclose a land grid array printed circuit board as claimed. The examiner, however, takes Official Notice that such a land grid array printed circuit board is known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the above conventional

land grid array printed circuit board in Rosent, in order to make it easier to manufacture the tunable filter as well as reduce the size and weight of the receiver.

As to claim 37, Rosent fails to disclose FET switches as claimed. The examiner, however, takes Official Notice that such FET switches are known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the above conventional FET switches in the switches in figure 3 of Rosent, in order to make it easier to manufacture the tunable filter as well as reduce the size and weight of the receiver.

11. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosent in view of Ma (4,792,993, cited by examiner).

As to claim 38, Rosent fails to disclose a shift register for serially receiving and storing control words as claimed. Ma discloses a shift register 39 for serially receiving and storing control words (see figure 3; column 5 line 60 to column 6 line 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Ma to Rosent, in order to adjust the band width of the filter more accurately and quickly (as suggested by Ma).

12. Claims 40, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosent in view of Bickley (5,822,687, cited by examiner).

As to claim 40, Rosent fails to disclose that the controller is coupled to received a control word and that the memory is coupled to store the control word received by the controller as claimed. Bickley discloses that a controller 22 is coupled to received a control word (see the output from the A/D 24) and that a memory 23 is coupled to store

the control word received by the controller (see figure 1; column 3 lines 46-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bickley to Rosent, in order to adjust the band width of the filter more accurately and quickly (as suggested by Bickley at column 5 lines 40-51).

As to claim 42, the rejection to claim 40 is herein incorporated. In addition, Bickley does disclose calibrating the tunable filter as claimed (see column 2 lines 45-52).

13. Claims 41, 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosent in view of Bickley (5,822,687, cited by examiner) as applied to claims 40 and 42 above and further in view of Ma.

As to claims 41, 43, the combination of Rosent and Bickley does disclose receiving the control word (see Rosent, column 7 lines 31-39), but fails to expressly disclose receiving the control word serially as claimed. Ma discloses receiving the control word serially by using a shift register 39 (see figure 3; column 5 line 60 to column 6 line 22). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Ma to the combination of Rosent and Bickley, in order to adjust the band width of the filter more accurately and quickly (as suggested by Ma).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rousselin (6,408,167); Evans (4,368,541); Utsunomiya (US 2003/00227354); Python (6,915,121) all disclose tunable filters.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen Vo

Nguyen Vo
3/25/2006

NGUYEN T. VO
PRIMARY EXAMINER